

# 耳蕨属一新组——新生耳蕨组\*

张丽兵\*\* 孔宪需

(中国科学院成都生物研究所 成都 610041)

## A new section of the fern genus *Polystichum* Roth

### ——Sect. *Neopolystichum* Ching

ZHANG Li-Bing\*\* KUNG Hsian-Shiu

(Chengdu Institute of Biology, the Chinese Academy of Sciences, Chengdu 610041)

**Abstract** A new section (Sect. *Neopolystichum* Ching) of *Polystichum* Roth is described. The lanceolate microscales on the lower surfaces of pinnules make this section very different from Sect. *Metapolystichum* Tagawa (emend. Zhang & Kung, 1996). The new section is taxonomically treated with seven species recorded in it. It is considered that *P. kiusiense* Tagawa is a synonym of *P. grandifrons* C. Chr. and it is very possible that *P. biaristatum* (Bl.) Moore is not distributed in the Himalayas, Indo-China, Myanmar and Yunnan.

**Key words** *Polystichum*; Sect. *Neopolystichum*; New section

**摘要** 描述了耳蕨属一新组——新生耳蕨组 Sect. *Neopolystichum* Ching。小羽片背面具披针形小鳞片使得新生耳蕨组显著区别于后生耳蕨组 Sect. *Metapolystichum* Tagawa (emend. Zhang & Kung, 1996)。本文对新生耳蕨组进行了分类学研究,共记载本组植物7种,并给出了各种植物的地理分布。认为九州耳蕨 *P. kiusiense* Tagawa 是大叶耳蕨 *P. grandifrons* C. Chr. 的一异名,二尖耳蕨 *P. biaristatum* (Bl.) Moore 极有可能并不分布于喜马拉雅、中南半岛、缅甸和云南。

**关键词** 耳蕨属; 新生耳蕨组; 新组

### 新生耳蕨组 新组

***Polystichum* Roth Sect. *Neopolystichum* Ching, sect. nov.**; S. H. Wu et Ching, Fern Fam. Gen. China 423. 1991; L. B. Zhang in Chin. J. Appl. Environ. Biol. 2(4): 361, 363, 366. 1996. nom. nud.

*Polystichum* Sect. *Metapolystichum* Tagawa Ser. *Exindusiata* H. S. Kung et L. B. Zhang in Z. Y. Yu et al., Adv. Pl. Taxon. NW China 1: 122. 1992; L. B. Zhang in Acta Bot. Yunnan. 16(3): 273, 275, 276. 1994. nom. nud.

Lamina bipinnata chartacea; rhachis non gemmata; pinnulae stipitatae; squamae pinnularum lanceolatae; sori indusiati vel exindusiati.

Sectio Sect. *Metapolystichum* Tagawa (emend. L. B. Zhang & H. S. Kung, 1996) similis, differt habitibus altioribus; squama pinnularum lanceolata.

\* 国家自然科学基金和中国科学院成都地奥科学基金资助项目。

The project supported by the National Natural Science Foundation of China (NSFC) and the Chengdu Diao Science Fund (DASF).

\*\* Present address: Institut für Spezielle Botanik und Botanischer Garten, Johannes Gutenberg-Universität Mainz, D-55099 Mainz, Germany.

1997-08-20 收稿, 1998-04-21 收修改稿。

**Typus sectionis:** *Polystichum grandifrons* C. Chr.

Sectio cum 7 speciebus in Asia orientali et australi crescens.

### Key to the species

1. Stipes without blackish-brown scales.
  2. Scales of rachis larger, ovate-lanceolate to broadly lanceolate, grayish brown, fimbriate on margins; pinnules broader and shorter; sori exindusiate ..... 1. *P. grandifrons*
  2. Scales of rachis smaller, usually narrowly lanceolate, lightly brown, subentire on margins; pinnules narrower and longer; indusia badly developed and inconspicuous ..... 2. *P. altum*
1. Stipes with blackish-brown scales.
  3. Rachis with blackish-brown scales; each lamina with (18) 20~27 pairs of pinnae.
    4. Stipes-scales adnate, rachis with sparse ovate blackish-brown scales with subentire margin; pinnule edges with long aristate spines; indusia badly developed and inconspicuous ..... 3. *P. longispinosum*
    4. Stipes-scales not adnate; rachis with dense ovate or ovate-lanceolate, blackish-brown scales with regularly fimbriate margins; pinnule edges with inconspicuous, short, aristate spines; indusia conspicuous ..... 4. *P. parvifoliolatum*
  3. Rachis without blackish-brown scales; each lamina with 8~17~27 pairs of pinnae.
    5. Each lamina with 16~27 pairs of pinnae; rachis scales broadly ovate, brown, dense, up to 10×5 mm; stipe scales up to 30×10 mm; sori indusiate ..... 5. *P. tacticopterum*
    5. Each lamina with 8~17 pairs of pinnae; rachis scales and stipe scales smaller; sori with or without indusia.
      6. Plants shorter, much less than 170 cm tall; each lamina with 8~12 pairs of pinnae; pinnules (1.5~2.0 (3.0)) × (0.6 ~ 0.8) cm ..... 6. *P. biaristatum*
      6. Plants taller, up to 170 cm tall; each lamina with 10~17 pairs of pinnae; pinnules (2.1~4.0) × (0.8~1.6) cm ..... 7. *P. robustum*

### 1 大叶耳蕨 新拟

***Polystichum grandifrons*** C. Chr. Ind. Fil. Suppl. 3: 163. 1934. — *P. grande* Ching in Bull. Fan Mem. Inst. Biol. 11: 189~190, pl. 5. 1931, non Fée 1857. TYPE: China. Yunnan, Mentze, in forest, A. Henry 13686 (PE).

*P. kiusiuense* Tagawa in Acta Phytotax. Geobot. 15: 15. 1953 et Col. Ill. Jap. Pterid. 81. 1959; Kurata in Sci. Rep. Yokosuka City Mus. 10: 23, f. 2. 1964; Pic. Ser., Ind. Fil. Suppl. 4: 254. 1965; Daigobo in Sci. Rep. Tokyo Kyoiku Daigaku sec. B. 15: 62. 1972 and in H. L. Li, Fl. Taiwan 1: 392. 1975; Kurata et Nakaike, Ill. Pterid. Jap. 1: 560~561, 624, f. 92. 1979; T. C. Huang, Spora Fl. Taiwan 81. 1981; Nakaike, N. Fl. Jap. Pterid. 154, f. 154. 1982; C. M. Kuo in Taiwaniana 30: 33. 1985; Iwatsuki, Ferns Fern Allies Jap. 170, pl. 100; 2. 1992; W. C. Shieh, C. E. Devol, C. M. Kuo et J. C. Wang in T. C. Huang, Fl. Taiwan 2nd ed. 1: 342. 1994. TYPE: Japan. Kiusiu, S. Hibino s. n. (KYO)

*P. squarrosum* auct non (Don) Fée; Wu, Wong et Pong in Bull. Dep. Biol. Coll.

Sci. Sunyatsen Univ. 3: 78, pl. 34. 1931.

**Guizhou:** Duyun, Y. Tsiang 5731 (PE). **Yunnan:** Mengzi, A. Henry 13686 (type, PE), T. N. Liou 18709, W. Hancock 86 (PE); Xinping, W. M. Chu et Y. M. Feng 388 (PYU); Wenshan, K. M. Feng 22150 (KUN); Xichou, Z. R. Wang 568 (PE), W. M. Chu et al. 21546 (PYU, CDBI), 21585, W. M. Chu 8209, 8211 (PYU); Malipo, K. M. Feng 13226; Maguan, Z. R. Wang 563, 755 (PE), W. M. Chu 8358, H. G. Zhou et S. G. Lu 18744 (PYU); Pingbian, K. M. Feng 4903 (PE, SZ); Jinping, W. M. Chu 5588 (PYU), X. W. Li 356 (KUN), Sino-URSS Exp. 1531 (PE), 2437 (KUN); Yuanyang, W. M. Chu et al. 8487 (PYU).

**Distribution:** SE Yunnan, Guizhou, S China (Guangxi etc.), N Taiwan; alt. 500 ~ 2300 m; in forests; S Japan (Kyusyu). Type from Mengzi, Yunnan, China.

**Notes:** In 1953 Japanese botanist M. Tagawa described the species *P. kiusiense* Tagawa based on specimens from Kyusyu. We found, however, that two species *P. grandifrons* C. Chr. and *P. kiusiense* Tagawa are the same in every respect. Therefore, *P. kiusiense* Tagawa is a synonym of *P. grandifrons* C. Chr.

The species has acute-topped fronds, fimbriate-margined rhachis-scales, exindusiate sori.

## 2 高大耳蕨

**Polystichum altum** Ching ex L. B. Zhang et H. S. Kung in Acta Phytotax. Sin. 36 (5):1, f. 1; 6~8. 1998. TYPE: China. Yunnan, Suijiang, under bamboos, alt. 1200 ~ 1400 m, 1973-05-27, W. M. Chu 5008 (holotype, PYU; isotype, PE, PYU)

**Sichuan:** Leibo, Q. C. Zhao et M. Y. He 121689 (SZ); Pingshan, Sichuan Econ. Pl. Exp. 1003 (PE, KUN). **Chongqing:** Youyang, Z. Y. Liu 6995 (PYU). **Yunnan:** Suijiang, alt. 1200 ~ 1400 m, W. M. Chu 5008 (PYU! Isotypi, PE! PYU!); ibid., 4875 (PYU).

**Distribution:** Endemic in China (S Sichuan, SE Chongqing, NE Yunnan); alt. 700 ~ 1800 m; in forests.

**Notes:** The species is similar to *P. grandifrons* C. Chr., but it's rachis-scales are smaller and usually lanceolate, subentire on margins; it's pinnules are slender; it's sori have poorly developed indusia.

## 3 长刺耳蕨

**Polystichum longispinosum** Ching ex L. B. Zhang et H. S. Kung in Acta Phytotax. Sin. 36 (5):3, f. 1; 1. 1998. TYPE: China. Sichuan, Leibo, in forest, alt. 2400 m, 1959-06-23, Z. T. Guan 7626 (PE).

**Sichuan:** Leibo, Z. T. Guan 7626 (Type, PE!); Mt. Emei, W. M. Chu et al. 7327 (PYU), Z. R. Wang et J. M. Xu 10 (PE); K. S. Shing et K. Y. Lang 643, 670, 722 (PE), W. P. Fang 2738 (PE); Shimian, L. B. Zhang 497, 498 (CDBI, PYU). **Yunnan:** Daguan, W. M. Chu 5263 (PYU, PE); Zhenxiong, H. T. Tsai 52690 (SZ).

**Distribution:** Endemic in China (W, S & C Sichuan, NE Yunnan); alt. 1700~2400 m; in broad-leaved forests, or in bushes.

**Notes:** This species is the same as *P. altum* Ching ex L. B. Zhang et H. S. Kung in appearance and size, but its stipe-scales are broadly lanceolate, blackish-brown, adnate; the rachis-scales are ovate, blackish-brown; the pinnule's edges bear long aristato-spines.

#### 4 小羽耳蕨

**Polystichum parvifoliolatum** W. M. Chu in Acta Bot. Yunnan. Suppl. V: 49, f. 29. 1992. TYPE: China. Yunnan, Yiliang, alt. 1800 m, 1976-10-30, J. J. He 7605 (PYU).

**Yunnan:** Yiliang, alt. 1800 m, s. coll. 12415 (PYU); Mile, W. M. Chu 7950 (PYU), Z. R. Wang 346, 678 (PE), Y. T. Hsieh 6987, 7003 (WUN).

**Distribution:** Endemic in China (C Yunnan); alt. 1800~2600 m; in reddish-brown soil under evergreen broad-leaved forests.

**Notes:** The species is externally very close to *P. jizhushanense* Ching (1983) of Sect. Metapolystichum Tagawa (1940) (emend. Zhang et Kung, 1996). The differences between them are as follows: *P. parvifoliolatum* W. M. Chu has blackish-brown scales with firm-briate margins on the stipe and rachis, narrower and smaller pinnules with deep incisions, lanceolate micro-scales on the lower surface of pinnules.

#### 5 南亚耳蕨 新拟

**Polystichum tacticopterum** (Kunze) Moore, Ind. Fil. 105. 1858; Sledge in Bull. Brit. Mus. Nat. Hist. Bot. 5 (1): 34~35. 1973 et Bot. Journ. Linn. Soc. 84: 19. 1982; Sinha et Gurung in Ind. Fern J. 2: 21. 1985; C. M. Kuo in Taiwania 30: 32, 63. 1985; Vasudeva, Bir et Kachroo in Ind. Fern J. 7: 79. 1990; W. C. Shieh, C. E. Devol, C. M. Kuo et J. C. Wang in T. C. Huang, Fl. Taiwan 2nd ed. 1: 349. 1994. — *Aspidium tacticopterum* Kunze in Linnaea 24: 290. 1851. TYPE: S. India. Nilgiri, Schmid 28

*P. aculeatum* (L.) Schott var. *formosanum* Kodama in Bot. Mag. Tokyo 29: 328. 1919. TYPE: China. Taiwan, U. Faurie 541.

*P. kodamae* Tagawa in Journ. Jap. Bot. 13: 186. 1937; Pic. Ser. Ind. Fil. Suppl. 4: 254. 1965; Daigobo in Sci. Rep. Tokyo Kyoiku Daigaku sec. B. 15: 61. 1972 et in H. L. Li, Fl. Taiwan 1: 392~393. 1975; T. C. Huang, Spora Fl. Taiwan 81. 1981; Nakaike in Misc. Publ. Nat. Sci. Mus. Tokyo 1982: 139. 1982; Fraser-Jenkins et Khullar in Ind. Fern J. 2: 14~15, f. 9~10. 1985.

*P. heteropaleaceum* Nair et Nag. in Journ. Bombay Nat. Hist. Soc. 75 (1): 153. 1978; Vasudeva, Bir et Kachroo in Indian Fern J. 7: 78. 1990. TYPE: NE India, Khasia Jaintia hills, peak forest, 1957-12-22, G. K. Deka 3960 (isotype, CAL).

**Taiwan:** Nantou, Y. Saiki 697 (PYU); Faurie 8058 (PE). **Yunnan:** Yuanyang, W. M. Chu et C. L. Dang 8547 (PE, PYU); Xinping, W. M. Chu 373, 381, 389, 392; Ximeng, W. M. Chu et al 15634; Yongde, 884, 14932, 14936, 14942, 14975; Lufeng, 15942 (PYU).

**Distribution:** Interruptedly in Yunnan and Taiwan; alt. 1600~2400 m; in forests; S & NE India, E Nepal, Sikkim, Bhutan, N Burma, Sri Lanka etc. Type from S India.

**Notes:** W. A. Sledge (1973) reported that this species bears no indusia. This is not correct.

The species possesses very large blackish-brown scales on stipes, broadly ovate brown scales on rachis. It's pinnules are obtusely serrate on upside, indusia irregularly serrate on margins.

## 6 二尖耳蕨

**Polystichum biaristatum** (Bl.) Moore, Ind. Fil. 86. 1953; Tagawa in Acta Phytotax. Geobot. 10: 275. 1941; Daigobo in Sci. Rep. Tokyo Kyoiku Daigaku sec. B. 15: 61. 1972 et in H. L. Li, Fl. Taiwan 1: 388. 1975; Sledge in Bull. Brit. Mus. Nat. Hist. Bot. 5 (1): 35~36. 1973 et Bot. Journ. Linn. Soc. 84: 19. 1982; C. M. Kuo in Taiwaniana 30: 32. 1985; W. C. Shieh, C. E. Devol, C. M. Kuo et J. C. Wang in T. C. Huang, Fl. Taiwan 2nd ed. 1: 338. 1994. — *Aspidium biaristatum* Bl. Enum. Pl. Jav. 164. 1828; Hook. Sp. Fil. 4: 29. 1862.

*P. subapiciflorum* Hayata, Ic. Pl. Form. 5: 335, f. 140. 1915; Tagawa in Acta Phytotax. Geobot. 6: 161~162. 1937; Daigobo in Sci. Rep. Tokyo Kyoiku Daigaku sec. B. 15: 61. 1972. TYPE: China. Taiwan, Arishan, 1914-04, T. Ito et Hayata s. n.

**Taiwan:** U. Faurie 8060, 8462, 8466, 8474, 8477 (PE), T. Murakami, Y. Saiki *et al* 353 (KUN).

**Distribution:** Taiwan, alt. 1300~1600 m; in forests; Sri Lanka, Indonesia, Singapore etc. Type from Java.

**Notes:** This is a species confused long in the history of the studies of *Polystichum* Roth. It was recorded that the species also occurred in the Himalayas (India, Nepal, Sikkim, Bhutan) (Vasudeva, Bir & Kachroo, 1990; Nakaike, 1982; Khullar & Gupta, 1980; Dhir, 1980; Mehra & Bir, 1964; Beddome, 1883; Clarke, 1880), Indo-China. (Tardieu-Blot & Christensen, 1940), Myanmar and Yunnan (Christensen, 1931). We think, however, that it is distributed with great possibility in China (only in Taiwan) and SE Asia (Sri Lanka, Indonesia and Singapore etc.). This means that all the reports of the distribution of the species in the Himalayas, Indo-China. Myanmar & Yunnan are probably wrong. Two examples here cited can verify indirectly our standpoint: C. Christensen (1931) described this species as one with buds on the top of blades, which is apparently false; and R. H. Beddome identified also a specimen bearing buds on the top of blades as this species (Photos of R. C. Ching, No. 16311, CDBI!).

The species has acute-topped laminae, linear and black-brown scales on rachis, pinnae far distant from each other, longer and serrate-margined pinnules.

## 7 粗壮耳蕨

**Polystichum robustum** Ching ex L. B. Zhang et H. S. Kung in Acta Phytotax. Sin.

36(5):3, f. 1; 2~5. 1998. TYPE: China. Yunnan, Suijiang, indumosis, alt. 850 m, 1973-05-18, W. M. Chu 4853(holotype, PYU! isotype, PE! PYU!).

**Distribution:** Endemic in China (NE Yunnan); alt. 850 m; in gap of rock.

**Notes:** In contrast to the close species *P. grandifrons* C. Chr., *P. robustum* has far taller stature (reaching 170 cm), stipes with blackish-brown scales, rachis with sparse lanceolate and subentire scales, obtusely serrate-margined and larger pinnules (cir.  $3.9 \times 1.7$  cm) with several lines of sori.

致谢 工作中蒙 PYU, PE, KUN, SZ 借阅标本, 谨致谢意。

## 高乌头的一个新异名——金城乌头

*Aconitum jinchengense* L. C. Wang et J. Silba, a new synonym of *A. sinomontanum* Nakai

### 高乌头

*Aconitum sinomontanum* Nakai in Rep. 1st. Sci. Exp. Manch. 4(2):146, f. 9. 1935; W. T. Wang in Fl. Reip. Pop. Sin. 27:168, pl. 28:1~4. 1979—*A. jinchengense* L. C. Wang et J. Silba in Phytologia 71(4):307~410, f. 1. 1991, syn. nov.

Wang Lan-chow 和 J. Silba (1991) 在美国出版的《Phytologia》杂志发表采自我国甘肃兰州的金城乌头 *A. jinchengense* 时, 认为该种与具二年生块根的乌头亚属 subgen. *Aconitum* 植物雅江乌头 *A. yachiangense* W. T. Wang 最为相近。但从描述和附图来看, 该植物明显具多年生根状茎, 显然属于牛扁亚属 subgen. *Lycotium* (DC.) Peterm.。根据其叶的分裂程度、花的构造以及花梗毛被等特征, 该植物应是甘肃地区较为常见的高乌头, 故予以归并。

近年来, 我国学者在国外期刊发表国产新分类群之风日盛。窃以为此举并不可取。象金城乌头这样错误如此明显的所谓新种, 如果作者将其投寄国内有关期刊, 通过正常的审稿渠道, 断不至于发表。国外期刊当然也有严格的审稿制度。但我们应认识到, 我国植物分类学家既得地利之便, 又经过多年工作的积累, 目前对我国植物的认识在大多数情况下当已超过国外学者, 乃是不争的事实。我国植物分类学家对国产植物的分类至少现在最有发言权。新种在国外期刊发表, 并不说明水平就高。我国学者宜深思之。

杨亲二(中国科学院植物研究所系统与进化植物学开放研究实验室 北京 100093)

YANG Qin-Er(Laboratory of Systematic and Evolutionary Botany, Institute of Botany, the Chinese Academy of Sciences, Beijing 100093)